

Listing and Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Cancelled)

2. (Previously Presented) A color system comprising:

an image capture device for capturing a scene and for providing first color image data representative thereof,

a color transformer coupled to the image capture device for transforming the first color image data to second color image data,

a first display device coupled to the color transformer, the first display device for displaying the scene as represented by the second color image data;

the system comprised by the color transformer including a processor programmed to perform a matrix operation upon the first color image data by selecting matrix elements from a look up table comprising pre-computed values;

wherein said color transformer is further comprised by operating on the first color image data (R,G,B) so as to provide second color image data (R',G',B') in accordance with the relationships:

$$R' = M_{rr} * L_r(R) + M_{rg} * L_g(G) + M_{rb} * L_b(B)$$

$$G' = M_{gr} * L_r(R) + M_{gg} * L_g(G) + M_{gb} * L_b(B)$$

$$B' = M_{br} * L_r(R) + M_{bg} * L_g(G) + M_{bb} * L_b(B)$$

wherein R is a red value of said first color image, G is a green color value of said first color image, B is a blue color value of said first color image, M is a matrix operation and L is a look up table operation carried out upon red (R), green (G) and blue (B).

3. (Previously Presented) The color system of claim 2 wherein said color transformer is further comprised by values of R, G and B ranging between a minimum and maximum digital value.

4. **(Previously Presented)** The color system of claim 2 wherein the color transformer is further comprised by values of $Lr(R)$, $Lg(G)$ and $Lb(B)$ ranging between maximum and minimum digital values.

5. **(Previously Presented)** A color system comprising:

an image capture device for capturing a scene and for providing first color image data representative thereof,

a color transformer coupled to the image capture device for transforming the first color image data to second color image data,

a first display device coupled to the color transformer, the first display device for displaying the scene as represented by the second color image data;

the system comprised by the color transformer including a processor programmed to perform a matrix operation upon the first color image data by selecting matrix elements from a look up table comprising pre-computed values,

wherein said color transformer is further comprised by a processor programmed to operate on R, G and B values to provide transformed values R' , G' and B' in accordance with the relationship:

$$R' = M_{rr}(Lr(R)) + M_{rg}(Lg(G)) + M_{rb}(Lb(B))$$

$$G' = M_{gr}(Lr(R)) + M_{gg}(Lg(G)) + M_{gb}(Lb(B))$$

$$B' = M_{br}(Lr(R)) + M_{bg}(Lg(G)) + M_{bb}(Lb(B))$$

wherein M is a matrix operation, $Lr(R)$ is a Red look up value, $Lg(G)$ is a green look up value and $Lb(B)$ is a blue look up value.

6. **(Previously Presented)** The color system of claim 2 wherein said processor is further comprised by a 3X3 matrix operation.

7. **(Previously Presented)** A color image processing method comprising the steps of:

capturing and storing first digital color image data,

transforming said first color image data to second color image data, said transforming being based upon characteristics of a selected display device, said transforming being performed

by operating on R, G and B values of the first color image data to provide transformed values R', G', and B' for said second color image data in accordance with:

$$R' = M_{rr}(L_r(R)) + M_{rg}(L_g(G)) + M_{rb}(L_b(B))$$

$$G' = M_{gr}(L_r(R)) + M_{gg}(L_g(G)) + M_{gb}(L_b(B))$$

$$B' = M_{br}(L_r(R)) + M_{bg}(L_g(G)) + M_{bb}(L_b(B))$$

wherein R is a red value of said first color image data, G is a green color value of said first color image data, B is a blue color value of said first color image data, M is a matrix operation and L is a look up table operation carried out upon red (R), green (G) and blue (B), $L_r(R)$ is a Red look up value, $L_g(G)$ is a green look up value, and $L_b(B)$ is a blue look up value; and

displaying said second color image data, wherein said first and second color image data exhibit different display device characteristics.

8. (Cancelled)

9-13. (Cancelled)